

FIGURE 1(a)

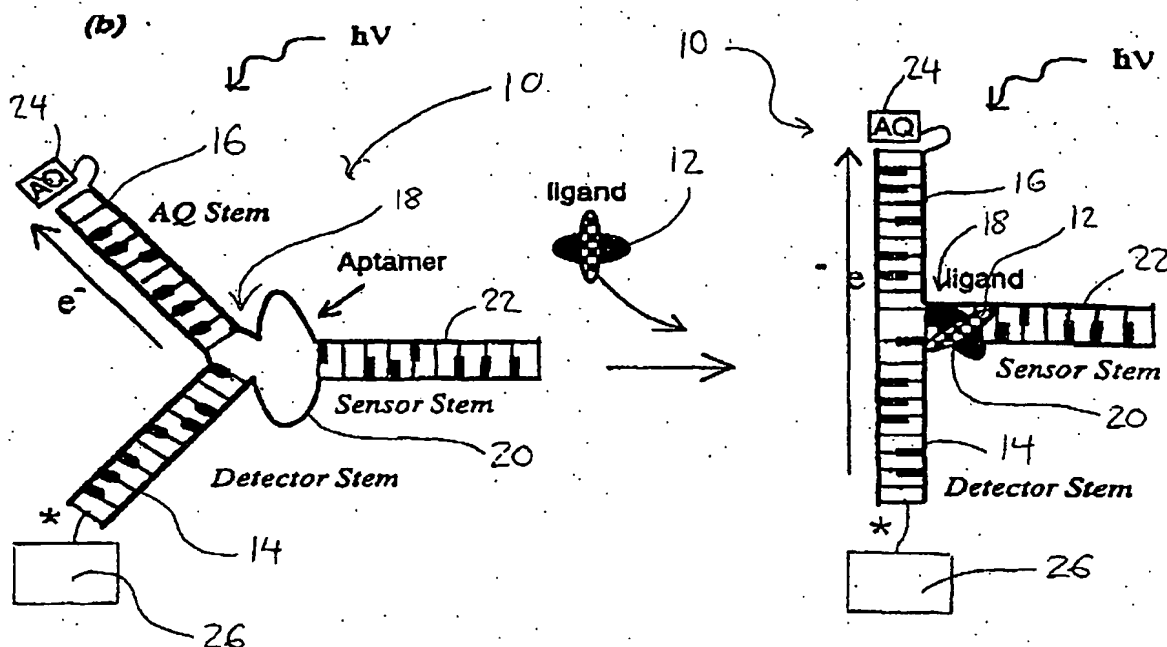


FIGURE 1(b)

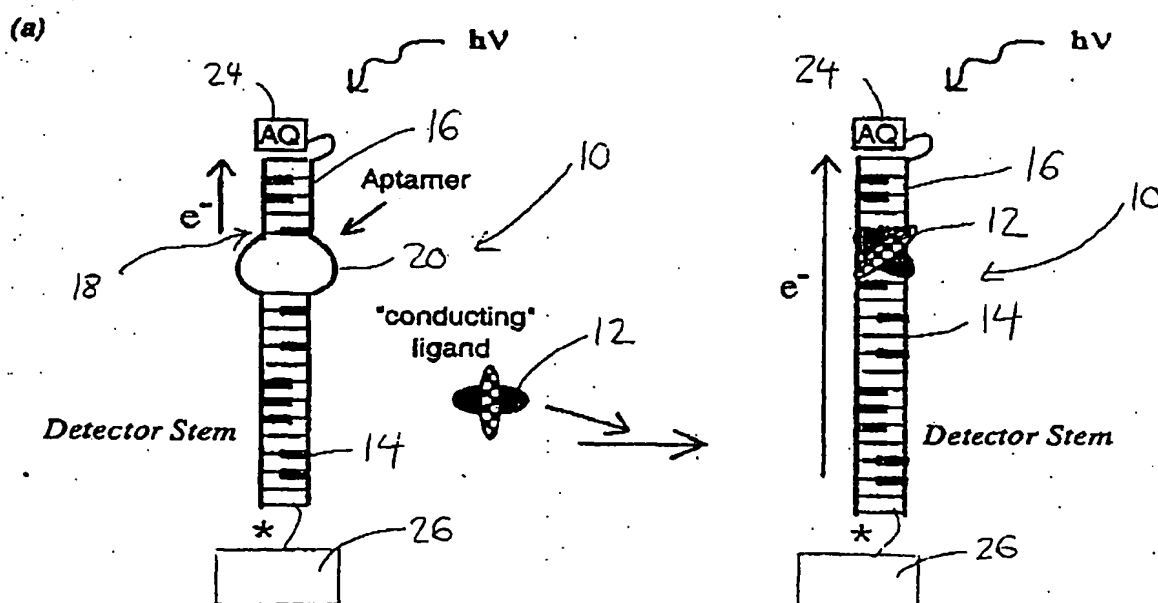


FIGURE 2(a)

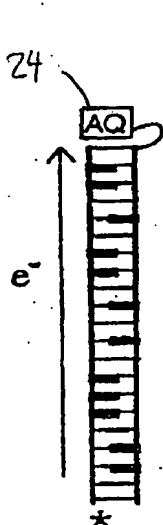


FIGURE 2(b)

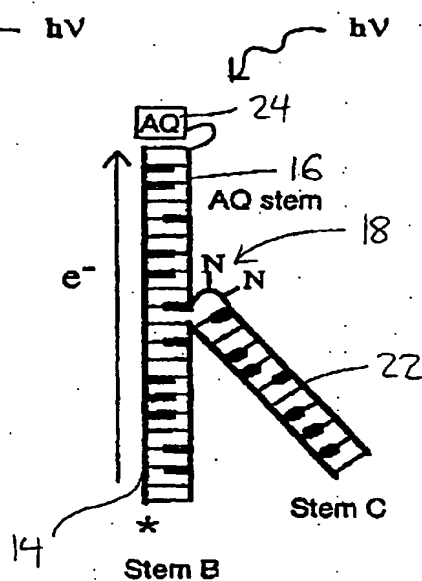
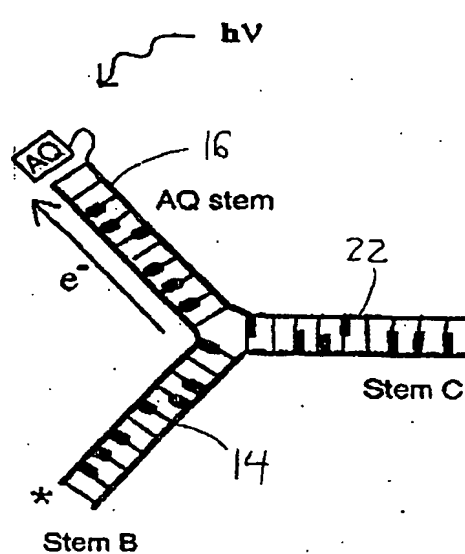


FIGURE 2(c)



Guanine bases are shown as dark stubs.

* designates a 5'-end labeled strand, which can be analyzed in a sequencing gel for damage to specific guanines concomitant with electron donation.

In panel (II) electrons flow from Stem B to the AQ stem; whereas, in panel (III) electron flow is restricted to the AQ stem.

FIGURE 3(a)

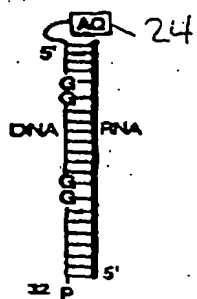


FIGURE 3(b)

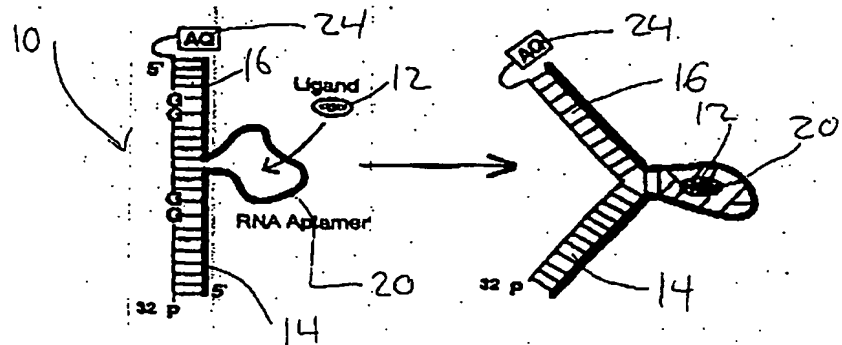


FIGURE 3(c)

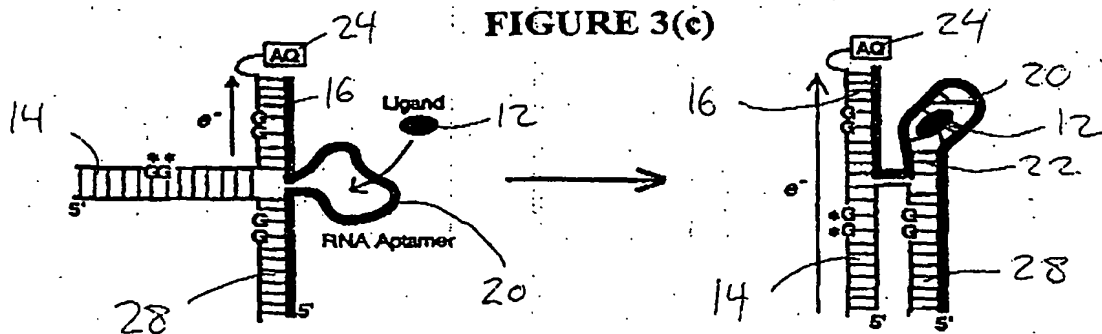
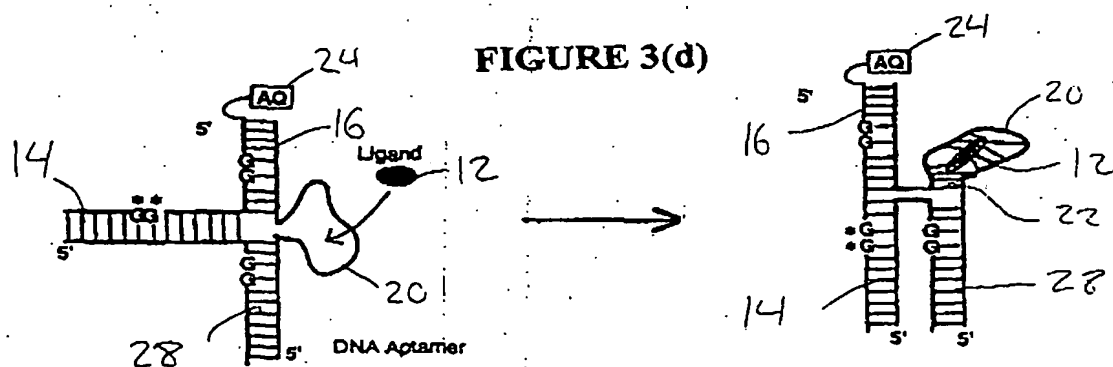


FIGURE 3(d)



In (c) and (d), asterisks indicate guanines through which electron conduction may be expected to change subject to ligand binding to the ligand receptor/ptamer.

FIGURE 4(a)

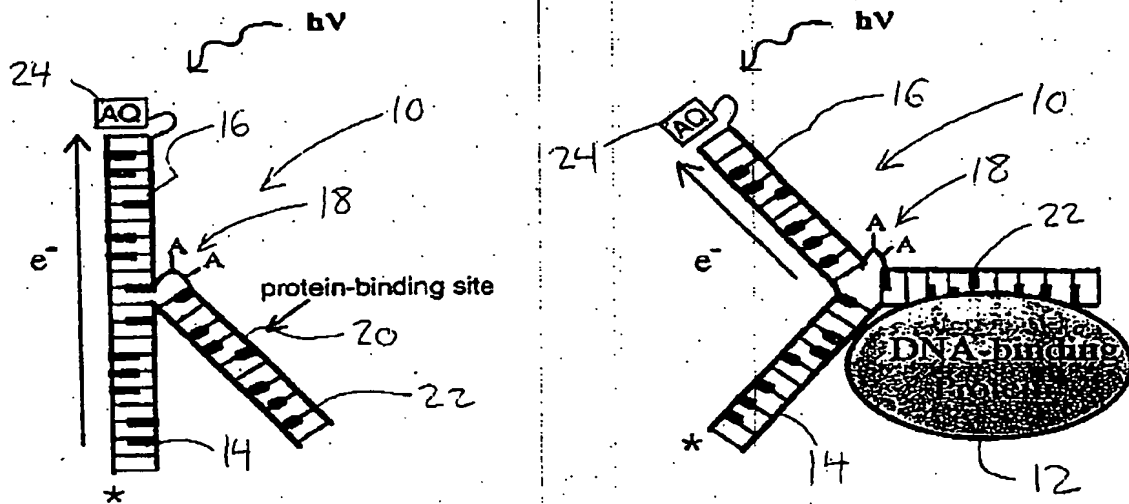


FIGURE 4(b)

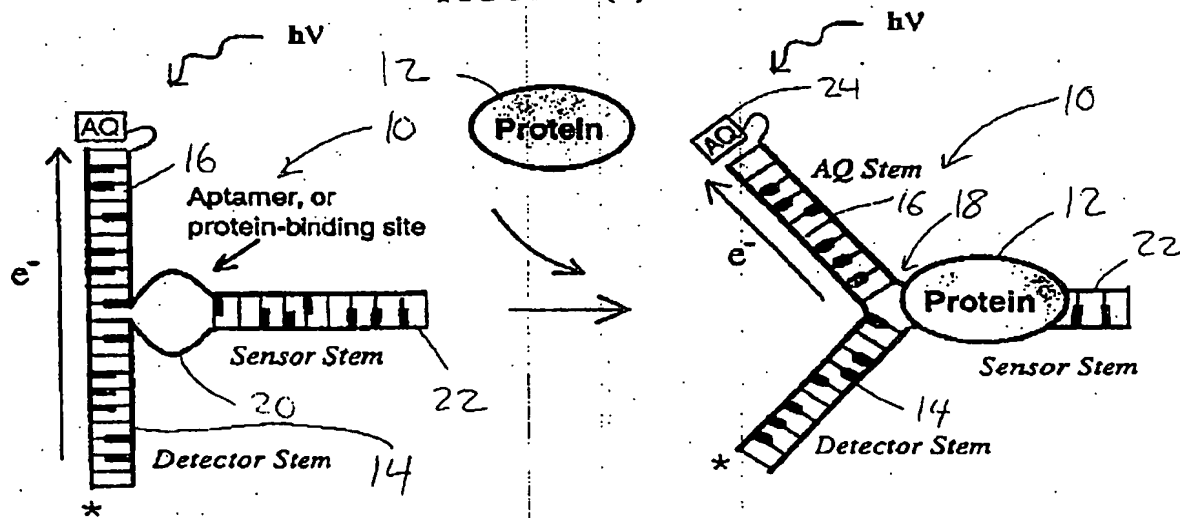
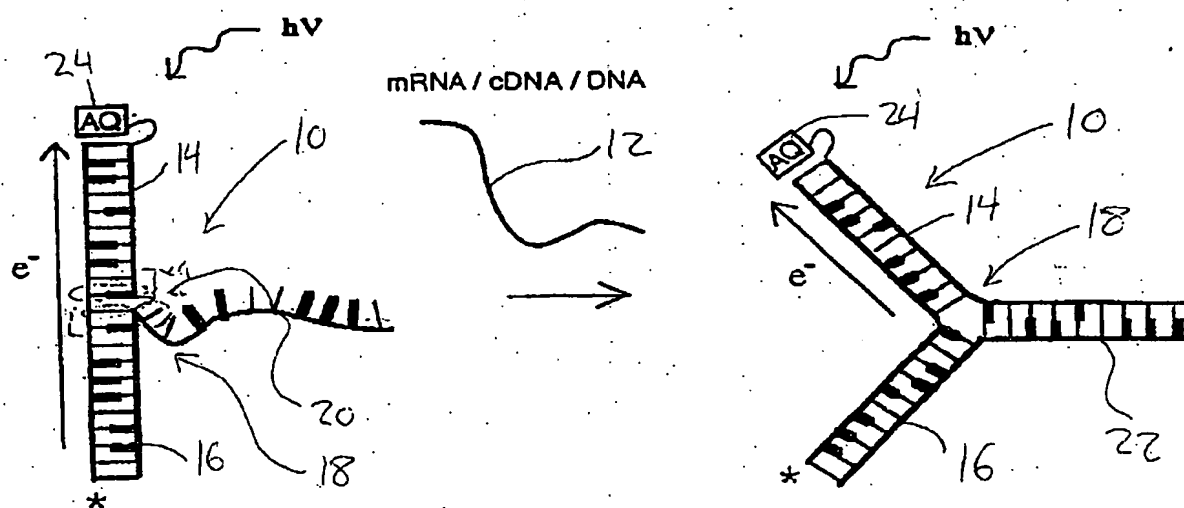


FIGURE 5



A sensor for detecting specific DNA or RNA oligonucleotides

FIGURE 6

'AND' Gate

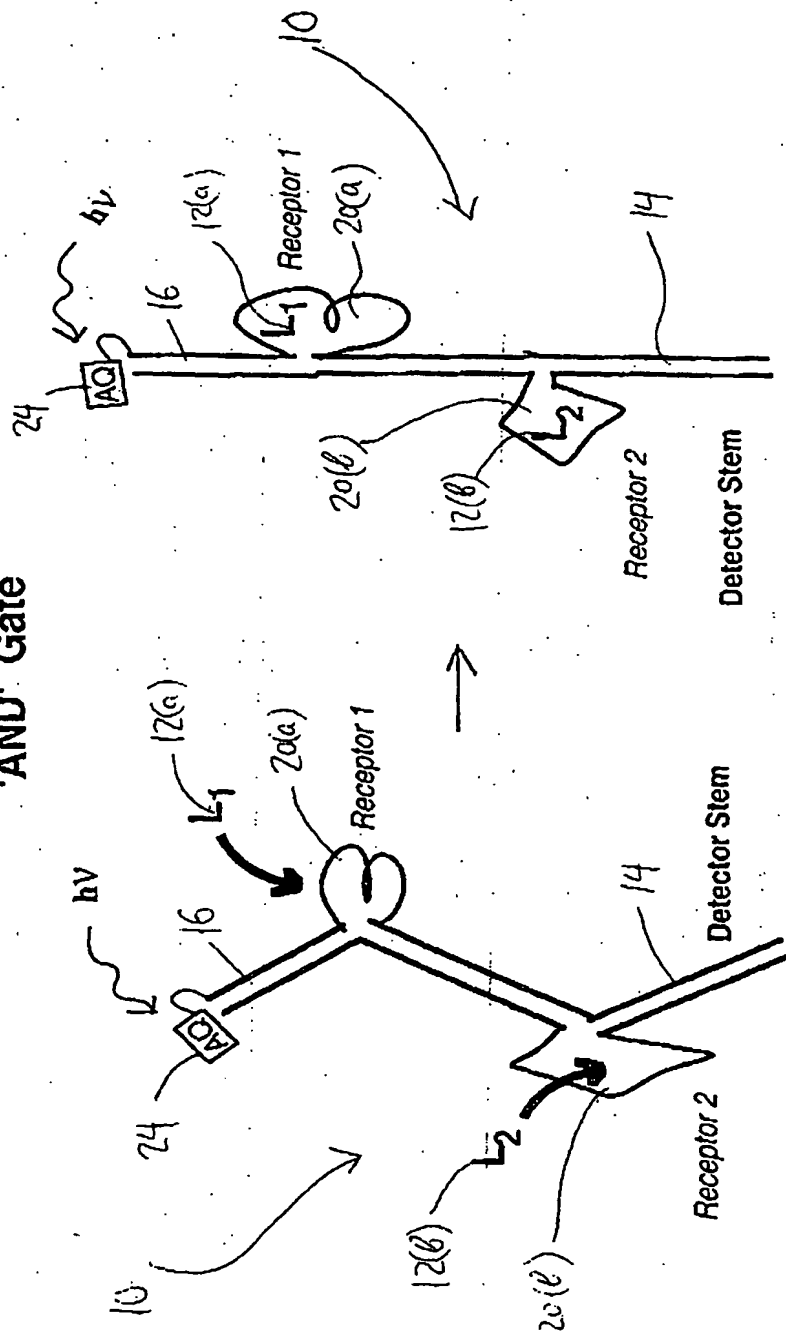


FIGURE 7

'NAND' Gate

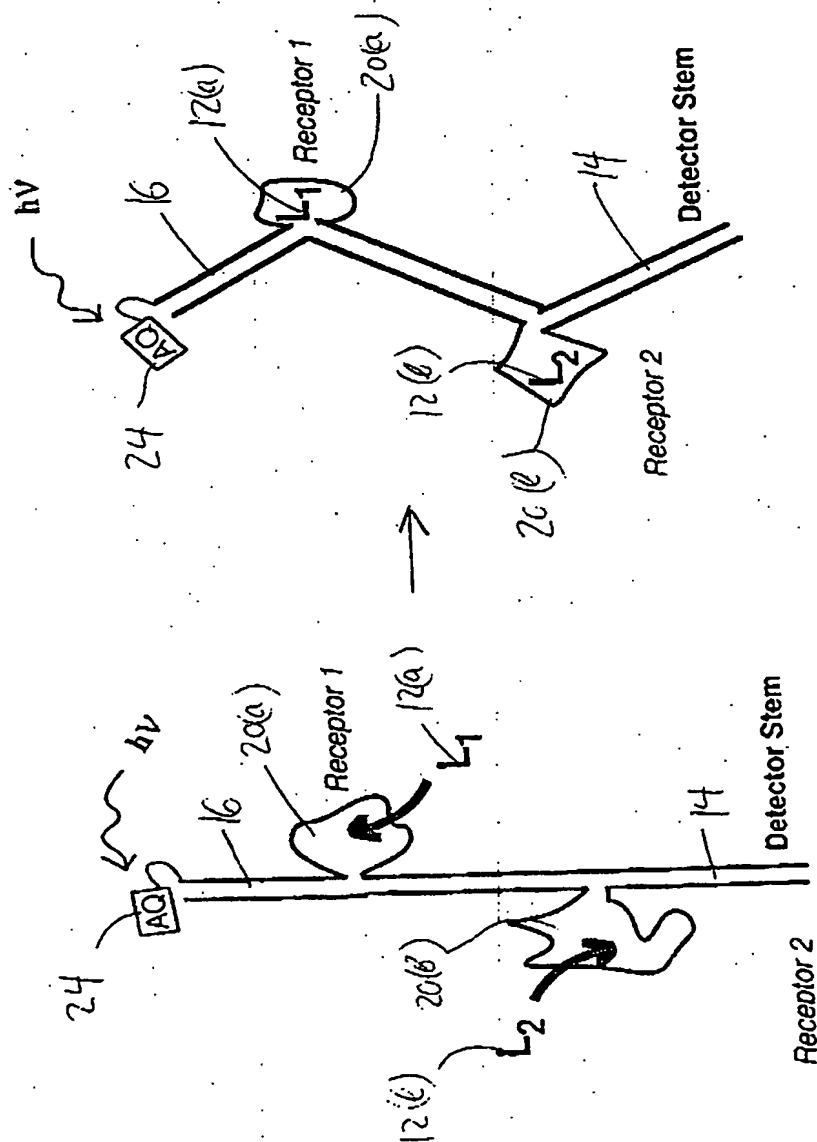


FIGURE 8

OFF

ON

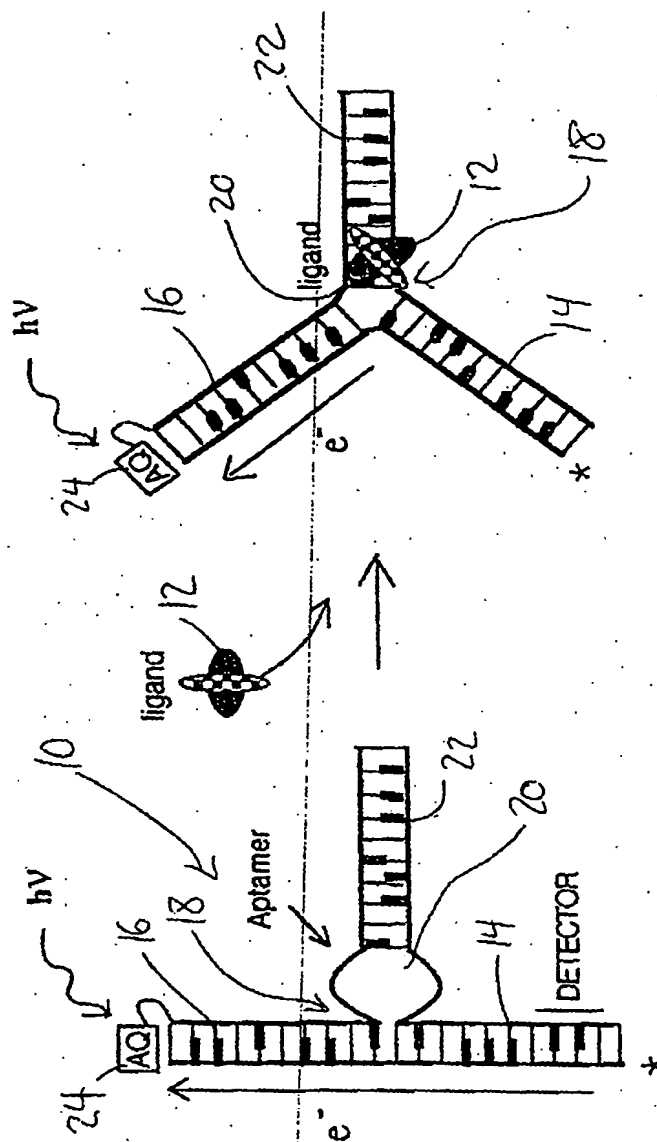


FIGURE 9

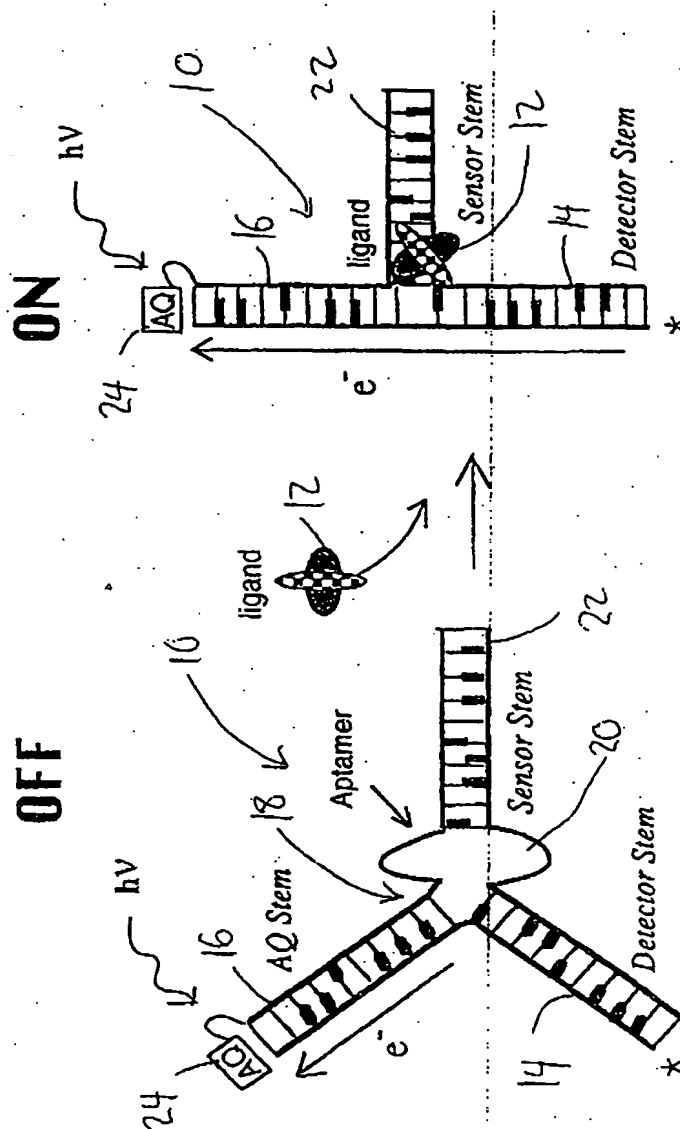


FIGURE 10

Direct *in vitro* Selection for Sensors of Proteins or Small Molecules

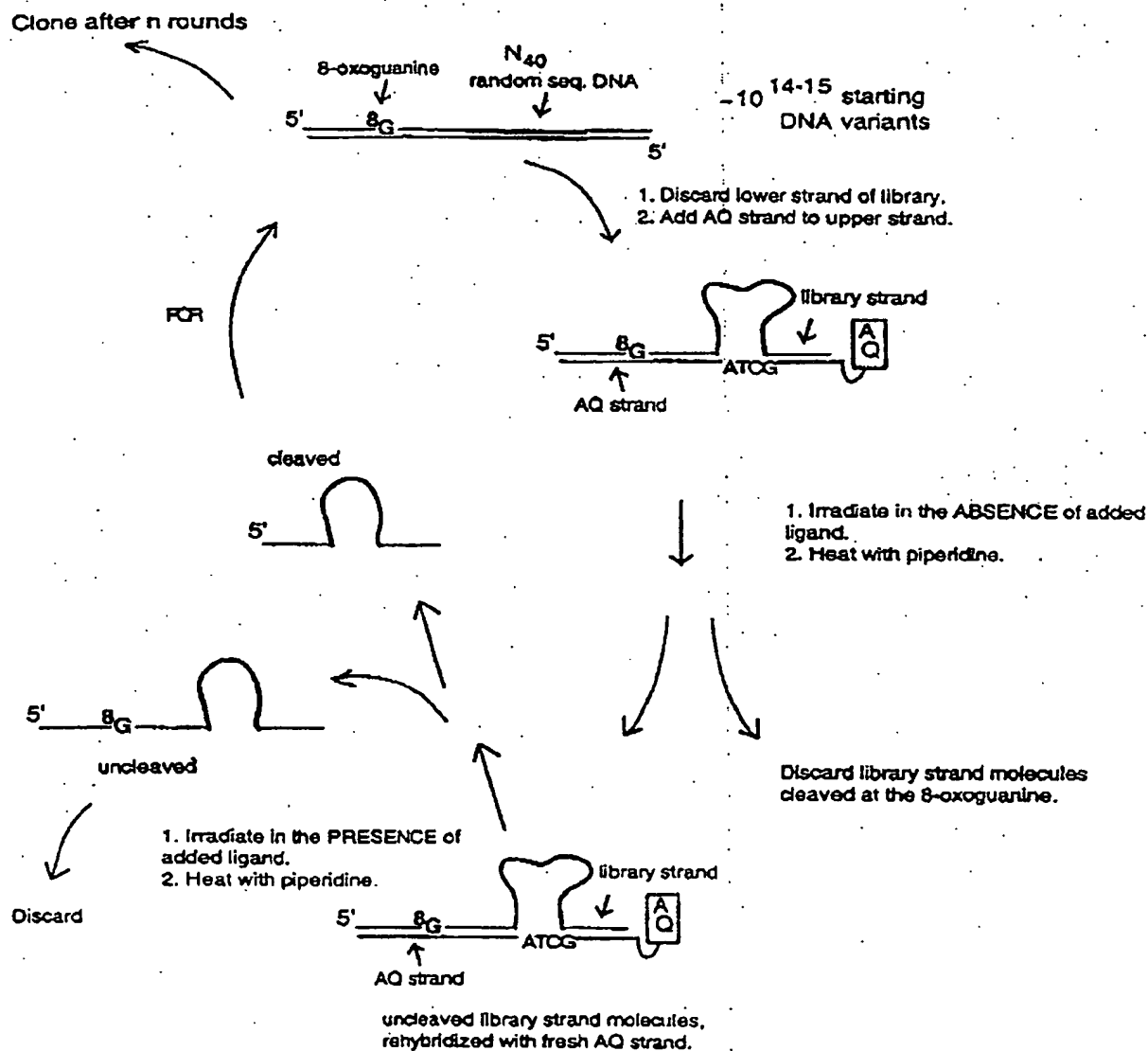


FIGURE 11

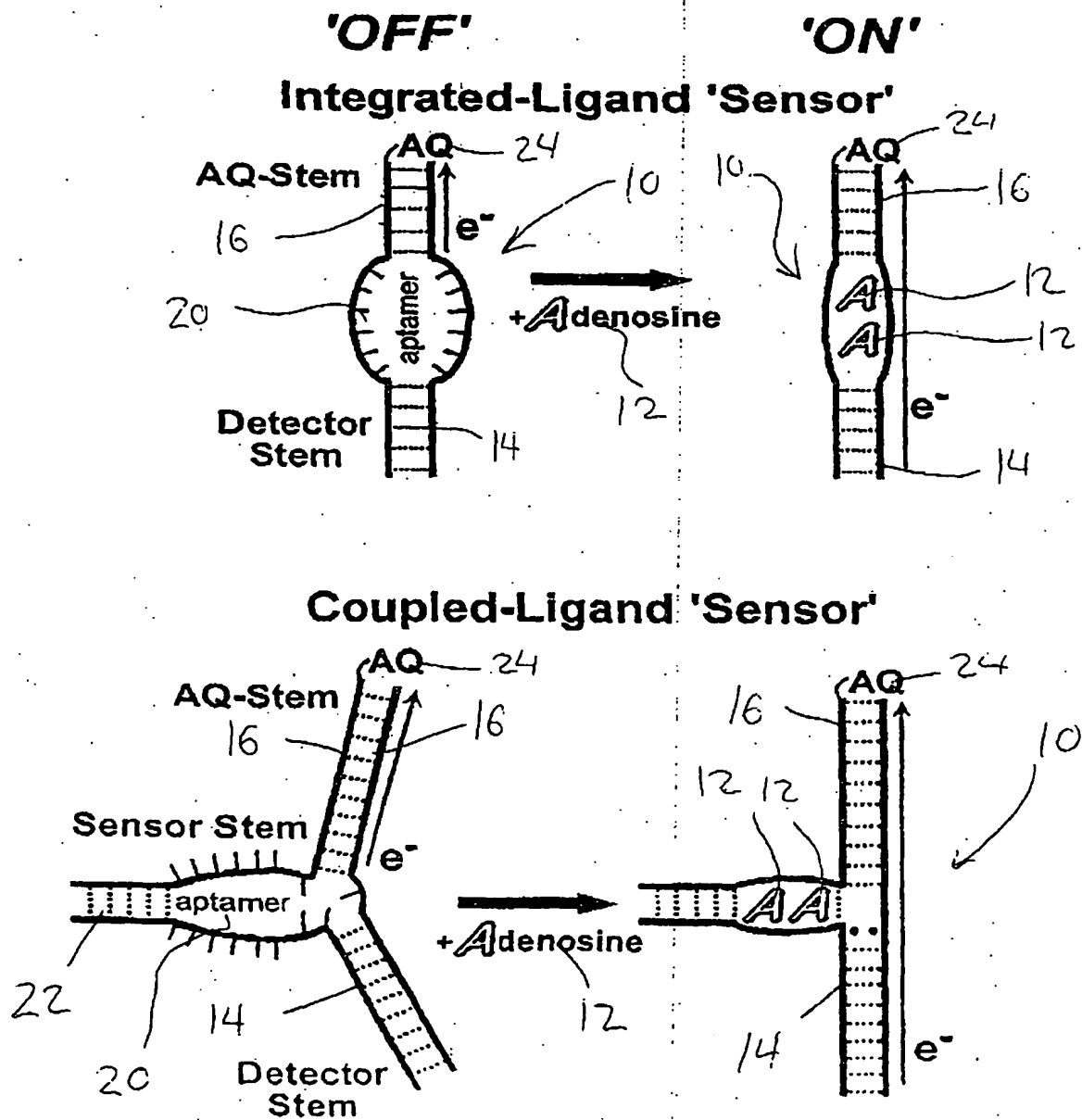


FIGURE 12

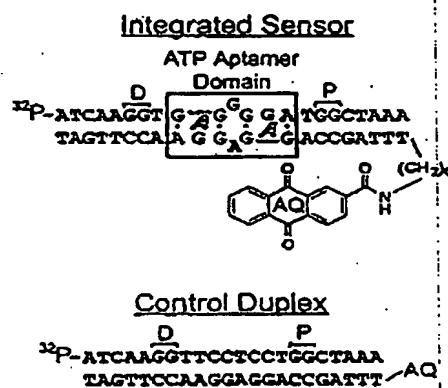


FIGURE 13(a)

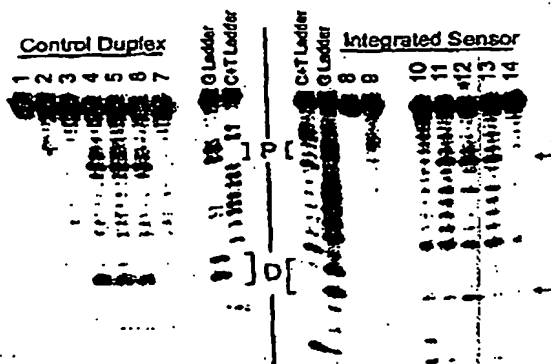


FIGURE 13(b)

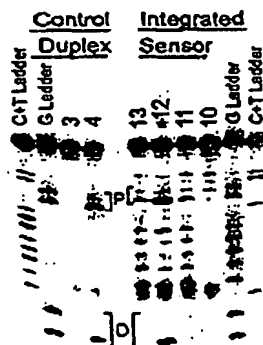
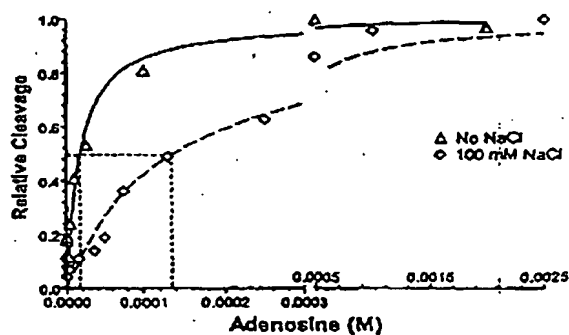


FIGURE 14



10/507387

PCT/CA03/00330

Diagram illustrating the structure of the ATP Aptamer. The DNA sequence is shown as 32P-TTACCAAGGTA-ATGGTTCCAT. The sequence is divided into a 5' region (TTACCAAGGTA) and a 3' region (ATGGTTCCAT). The 3' region is further divided into a 3' flanking sequence (ATGGTTCCAT) and an ATP Aptamer region (ATGGTTCCAT). The ATP Aptamer region is highlighted with a box and labeled 'ATP Aptamer'. The 5' region is labeled '32P' and the 3' region is labeled '3' flanking sequence'.

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